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Evaluation of Severely Visually Impaired Children

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Introduction

Evaluation implies the formation of judgements. Judgements made according to standard criteria, such as those regarding physical properties (size, weight mass and the like), approach the ideal of "objectivity." As we move from the physical realm to levels of change wrought by reactivity (in man, behavioral levels), we are confronted by a dilemma. The more specifically we define behavioral properties for objectification, the greater the risk of a narrow, static focus of judgement. On the other hand, our assessment tools must be addressed to highly specified variables in order to provide a standard rule. Further, evaluation is impeded by the perceptual framework of the evaluator, and each of us has attempted to frame judgements where our attitudes or values prevent objectivity. (For the past four years, students in an appraisal course have been asked to describe participants in a staged situation. Perceptions of size, weight, coloring, clothing and other fairly "objective" features were distorted by roles ascribed internally. For example, the professor is almost always seen as larger and older than is true.) To compound these difficulties, ethical questions arise concerning the categorization of human behavior necessary for standard measurement (e.g., Stevens, N.Y. Times, 1971).

Given the complex backdrop of issues and controversies, it is interesting to witness the proliferation of psychological and educational evaluation materials which are being made available. Ten years ago, a comprehensive bibliography of published tests used in education, psychology and industry was compiled (Buros, 1961). There are 2,126 entries in that volume, and it has been estimated that that number has doubled (Rothberg, 1971) since its publication. Having recently reviewed catalogs for the development of a demonstration test file, I was surprised to see the large number of new measures listed. Approximately two hundred and ten titles (often with varieties of forms, levels and subtests) were selectively ordered for use with children and adolescents, this being a fraction of those possible for such a population.

Perhaps the most central issue posed by psychometrics is that of purpose. Why is instrumentation necessary for evaluation of behavior? How do technical factors assist our goals in evaluating human behavior? With what individual intent do we use these instruments?

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Evaluation Evaluated

The formation of judgements may be seen in many forms of life. Throughout the primate experience, components of memory, comparison, analysis for problem solving, and organization of behavior based upon observation are seen. Man's history offers a reflection of the necessity for roles and cultural evaluations for filling them (Linton, 1936). With the genesis of language and transmission of culture over generations, judgements could be preserved as historical expectations. Among the Classical Greeks, distinctions between activity of "mind" and "body" set a foundation for the interpretation of behavior which has dominated Western psychological constructs. "Mental" activities, thought, cognition, memory, etc., have been viewed as distinct from physiology. Recently, with research into the biochemical bases of behavior a more psychophysiological vision of man has appeared. Interestingly, a cultural shift toward Eastern philosophies is also apparent.

Attempts to "measure" mental attributes have a variety of historical roots. One feeder has been the need for psychiatric classification, and the many attempts to organize observed pathology in some meaningful way. Such observations of deviant and disordered behaviors, and attendant symptoms, are still in use today (Arieti, 1959). A second root is formed by the theories espoused regarding personality. Influences from the works of the nineteenth century thinkers suggest specific ways of viewing psychological processes. (e.g., see Hall & Lidzey, 1970).

The third contributor, most pertinent to this paper, has been the development of methods for assessing behavior in a structured fashion. We are all familiar with the work of Pavlov and Wundt, wherein certain autonomic responses were measured. At that point, the problem of scaling would be analogous to physical properties in that salivation, eye-movement and similar phenomena may be measured quantitatively with ease. Early behavioral measures designed by Galton (1883) and Cattell (1890), were concerned with sensory discrimination and motor speed for selected tasks, slightly more complex to analyze. When Binet (1905) developed a model for establishing "mental age", he was interested in isolating poor learners for school placement purposes. His series of "work samples" drawn from school tasks provided the inspired beginning of "intelligence" testing. It was hoped, when Terman (1937) translated the Scale, that a potential for learning could be tapped by such measures. The nature of the activity, and the broad range of behavioral alternatives, makes the judgements based on these measures less "objective."

As difficult as it may be to objectify appraisal of "intelligence" (a variously defined construct itself), evaluation of personality attributes moves us far along the continuum to subjective levels. Projective techniques with ambiguous stimuli are familiar (Rorschach, 1942; Murray, 1938), and a number of checklists and scales are also available.

Mental measurements presume an underlying consistency in human behavior, amenable to careful description (clear definitions) and quantitative analysis. As individual differences appear, however, cautions are necessary to prevent over generalization. In order to maintain standards for objectification, considerations such as the validity, reliability, establishment of norms, standardization of procedures and scoring, and quantification methods are urgent. The history of mental measurements suggests that these considerations are not always stressed to a sufficient extent, and caution needs to be exercised in interpretation of scores. Further, owing to the complexities of human variables, single score reports offer meager evidence for decision-making.

These elements return us to the analysis of purpose. In research, we may be satisfied with only one fractional band of the spectrum of behavior, and content ourselves with one highly specified measure. For making decisions which will influence life patterns of the individual, however, we dare not employ any but the most sophisticated techniques known to man, and in sufficient combination as to offer some assurance of the objectivity of our findings. The ethical question must also be borne in mind: by what right does one group (e.g. psychologists, educators) presume to judge another (e.g. "cases", "subjects")?

Evaluation of Handicapped Populations

The development of measurement techniques has been wedded, for the most part, to investigation of abnormality. Early psychiatric ventures, Binet's pioneering work (which addressed itself to deficiency or retardation) and even Terman's work (geared toward the gifted) viewed behaviors as the extremes. The very statistical techniques used to provide norms and standards are generally those which distribute people according to the normal curve paradigm. We look to tests to point up the unusual.

For this reason, handicapped individuals have been prime subjects for evaluation. The most prominent groups have been those with emotional disorders (dements) and those with serious cognitive disorders (aments). Through the years, however, sensory defects and physical stigmata have also been studied for their relationship to mental functions.

Some controversy exists regarding the major testing considerations with handicapped major testing considerations with handicapped subjects. The individual differences presented by those with varieties of disorders makes the development of norms difficult. Standardized procedures are often modified, raising question regarding interpretability of scores. Validity may be threatened when tests are used for purposes other than those for which they were designed.

Some authors have addressed the problem by designing special tests. Such examples as the Hiskey-Nebraska Test of Learning Aptitude (Hiskey, 1966) with norms for deaf children and the Pictorial Test of Intelligence (French, 1964) come to mind.

Development of specialized norms for tests designed for other groups has provided additional materials. The most prominent examples are the Wechsler Intelligence Batteries (1949, 1955, 1967), of which subtests are used selectively with varying populations and profile adaptation analyses are available in specialized instances (e.g., Bauman & Hayes, 1951 for the blind).

Evaluation of the Blind and Visually Handicapped

Pioneering work by Haines (1916) and Hayes (1923) offered an adaptation of the Binet Scales for use with the blind. These early attempts to measure intelligence followed closely the model of Terman's translation, with specific age-related norms for a variety of tasks. Comparisons with the sighted population (Hayes, 1950), and attempts to demonstrate normal curve patterns for the blind group were made.

Adaptations of other widely used measures have been undertaken during the intervening years. Maxfield and Buchholz (1957) modified the Vineland Social Maturity Scale; Shurrager and Shurrager (1964) provided tactile analogues to many of the Wechsler Performance Subtests; Rich and Anderson (1961) created a tactile form of the Ravens Progressive Matrices, to name a few. Newland (1961) combined perceptual and tactile elements in the Blind Learning Aptitude Test. Projective methods (such as those described in Lebo & Bruce, 1962) and personality tests (e.g., the one used by Bauman and Yoder, 1966) also appear in the literature. A more complete discussion of presently available appraisal instruments may be found in the 1970 publication of AFB.

Such expansion of the evaluation repertoire is desirable, for the sphere of measurement should offer options according to purpose. However, those of us who maintain interest in the welfare and development of the visually handicapped are often aware of several problems raised by the unsophisticated use of measurement techniques with this population.

Current Problems and Issues in the Evaluation of the Visually Handicapped

The visually handicapped find themselves in the position of examinee quite often. In addition to the customary evaluations, extensive physical and ophthalmological procedures are often necessary; agencies and special schools require psychological and educational assessments during school years; the rehabilitation process generally includes batteries of tests; and the handicapped are more carefully scrutinized and judged in social situations. Added opportunities arise surrounding special research needs.

Perhaps the most serious problem for the "subject" is the use to which findings are put. Is he being compared to the sighted population, and to what purpose? Is the evaluation another instance of social segregation and special judgement? Will the evaluation help those in his sphere understand his needs? Will he be "categorized" by a score or report? Will his own self-doubts find affirmation?

Bearing such questions in mind, the examiner has additional problems. The issues which confront the evaluator may be considered in several areas:

1. Ophthalmological and Medical

The factor which discriminates the group in question is vision, yet visual data is often overlooked in evaluation. The number of research reports (not to mention individual write-ups) which refer to "the blind" and group people with visual disabilities as homogeneous is astounding. From Hayes' pioneering work to the present day, evaluators have tended to see these people as a unitary class for normative purposes.

We are becoming increasingly aware of differences in genetic subgroups in the population. A recent study (Witkin, Oltman, Chase and Friedman, 1971) suggests cognitive and perceptual factors related to retinoblastoma. Subtle neurological differences may exist among subjects with such retinal disorders as macular degeneration. Biochemical changes may also affect approaches to measurement, as with diabetic retinopathy.

Such considerations become even more pertinent when we consider the increasing numbers of multihandicapped children now in our midst. Medical evaluation is essential for interpretation of psychoeducational findings. We no longer have the luxury of viewing behavioral variables as independent

of physiological functions.

In order to offer sophisticated assistance to visually handicapped people, or increase our knowledge regarding their abilities, we need to consider visual disorder, other handicaps, severity, etiology and prognosis. Research samples must be chosen with care to offer more discrete evidence of medical aspects of findings.

2. Sensory and Perceptual:

Research into sensory deprivation affords us an opportunity to examine psychological processing of perceptual information. Issues of tolerance (Myers, 1969), threshold and perceptual-motor effects (Zubek, 1969), and Intellectual performance (Suedfeld, 1969), raised in laboratory studies, suggest variations of style in dealing with deprivation states. Clinical studies (Jackson, 1969), concerned with changes in visual acuity, support the notion of more global response differences than the one affected modality.

Findings where tactile perceptual tasks are presented also suggest differences in processing capabilities (Witkin, et al., 1968). Historically, evaluation of visually handicapped students has neglected this avenue of exploration. It appears that we may need to consider the lack of visual stimulation as providing a specialized framework within which to view all other data. A practical example is offered by Barraga () who, after visual training with children whose acuities were extremely low, found profound changes in the totality of functioning.

3. Cognitive Style:

The most ubiquitous type of appraisal involves "intelligence." It is not surprising that the history of mental measurement began in this area. Controversies may be found in the literature between those who see intellect as a unitary function and those who posit multidimensional theories. Recent research indicates that the I.Q. per se is of relatively little value in considering individual behaviors (Witkin, 1965). Unless we analyze the patterns of test scores, evaluate strengths and weaknesses and use data to develop a functional approach and disposition, our cognitive methods offer little more than an intellectual exercise.

With the increasing range of measures available for measurement of the visually handicapped in this area, we can offer more penetrating recommendations. We are no longer tied to the purely verbal tasks of former years. Performance skills may be appraised with normative data, and further development of these methods is to be encouraged. Here again, however, analysis of need within the life system of the visually handicapped (for example, are the tactile demands truly analogous to visual ones in performance?) must be studied.

4. Developmental:

Early intervention into the lives of handicapped children and their families is an increasingly popular method of assistance. Infant programs, pre-school services and research into early child development are growing. Evaluation tools are few, and often highly sensory in approach, owing to the need for attractive stimuli at this age.

We have long felt a need for early service in the services to young blind children, but the methods for evaluating development have been limited. Bayley's (1969) sophisticated battery has not been adapted, nor have we experienced new

approaches.

Until we establish meaningful norms for this age group of children with severe visual impairment, we will not be able to be of service to families who ask for concrete assistance. One direction for the future may be led by methods being devised at Syracuse University (Curtis & Donlon, 1971) where developmental evaluations are being made via behavior samples on videotape. (Similarly, Fraiberg has filmed reports for the Michigan research project). Validation and factor analysis studies are urgently needed.

5. Educational:

With an increased focus on specific learning styles and deficits, new forms of educational diagnosis are becoming available. Prescriptive teaching (Peter, 1965), directive teaching (Stephens, 1970), and other approaches are receiving nationwide attention. Such a movement requires educational evaluation which is relevant to classroom procedures. Teachers are being trained to be more astute and competent to effect measurement for educational remediation (Smith, 1969).

Special educators interested in visually handicapped children are participating in this movement. One important aspect has been the evaluation of systems and schools, such as that undertaken by the National Accreditation Council (1968), which has set forth a guide for curricular evaluation. The research staff of the American Printing House for the Blind has conducted on going studies into braille reading, listening skills, educational media and the like. A number of assessment methods has been a by-product of these investigations.

Nonetheless, we must consider that understanding of the learning modalities of the majority of visually handicapped children is limited. Educational practices continue by tradition in settings for blind students, rather than by analysis and specific prescriptions. Leadership in adaptation of the educational tools for diagnosis and prescription is needed. The field is fortunate in the quantity of individual instruction offered; there will be an increase of quality as evaluation techniques are refined. Analysis of listening and tactile skills have been undertaken, with helpful results. Motor skills, coordination, learning style and rate, processing of information and integration skills merit similar diagnostic attention.

6. Affective and Social:

Emotional development of blind children has received attention in psychoanalytic writings (Burlingham, 1961, 1965; Fraiberg & Friedman, 1964; Fraiberg, 1968, among others). The theoretical framework provides a perspective which does not utilize standardized appraisal techniques, yet an evaluation schema emerges which facilitates some judgements. In this realm, life style differences again appear, and early experiences are apparently deeply modified by sensory loss and parental reaction. Psychodynamic processes do seem to follow the theorized pattern, though, and such issues as separation, individuation, and response to stress are seen. In cases where severe withdrawal and disturbance appear, the literature is unclear owing to contaminating factors (prematurity, neurological components, etc.). For example, the findings of Roeske (1970) center around the RLF population for whom special factors were salient.

Affective development is a sensitive area in that both families and professionals have developed necessary defenses surrounding the "normality" of

function . It would be helpful if we could view differences as different without judgements as to relative "mental health." It is in this domain that considerable objective work in evaluative techniques is sorely needed. The inspired and often creative projective methods which have been developed (Lebo & Bruce, 1962) are no more objective than their analogues for the sighted, offering some insight with minimal validation. The skilled clinician may be able to assess emotional development sensitively; the tools do not assist the less enlightened craftsman.

The means of assessing "social adjustment" are all too often imposed from the standpoint of sighted norms. With the exception of some recent work which analyzes social systems and blindness (e.g., Scott, 1967), much of the evaluation has focussed on how well blind individuals "fit" into existing structures, such as school or occupation. Methods are sorely needed to assess social roles in the context of the life style of blind subjects. Also lacking are insightful scales for evaluating social development of blind children beyond pre-school years. The need becomes more acute as we appraise the skills of blind youth with additional disabilities.

7. Research and Technology:

Of all the concerns which confront the evaluator, the impact of technological change via aids and systems is, perhaps, the most complex. Measurement for research has been carefully designed in this area such as that by Foulke (C.C.R.R. Newsletters) and Proscia (1970). It is in this area that we observe rather precise paradigms for analysis of learning, processing and mobility.

The adaptation of computer and other electronic aids to developmental and educational needs is proceeding. Far-reaching implications of the measurement tools involved may exist, and information needs to be shared so that we move from the "pure research" realm to practical application. Measures of sensory process via equipment and tools may also be used for examining learning systems under other conditions.

Conclusion:

The foregoing list of considerations for sensitive measurement brings us back to purpose. Hopefully, we are assessing and evaluating so as to contribute to a process of enriched lives. Only if our results are reported in such a way as to foster enriching experiences, education, social relationships, deeper awareness, does it have any meaning. Mere classification or the assignment of numbers does not answer to our goal. Similarly, research into behavioral variables in the visually handicapped is unrelated to purpose unless it seeks to answer questions regarding the nature of the sensory/cognitive experience. Without the central concern to discover and assist, we dare not judge.

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